

REMARKS

Claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 are pending in this application.

Applicant has amended claims 24 and 26. The changes to these claims made herein do not introduce any new matter.

Rejection Under 35 U.S.C. § 101

Applicant respectfully requests reconsideration of the rejection of claims 24-26 under 35 U.S.C. § 101 as being directed toward nonstatutory subject matter. Applicant has amended each of independent claims 24 and 26 to specify that the computer-readable storage medium is a “non-transitory” computer-readable storage medium. As such, present claims 24-26 define statutory subject matter under 35 U.S.C. § 101. Accordingly, Applicant requests that the rejection of claims 24-26 under 35 U.S.C. § 101 be withdrawn.

Rejection Under 35 U.S.C. § 112

Applicant respectfully requests reconsideration of the rejection of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 under 35 U.S.C. § 112, second paragraph, as being indefinite. Independent claim 1 recites that “each of the dither matrices comprises a plurality of threshold values selected from among various types of threshold values, the number of which is greater than the number of the pixels included in each of the pixel groups, and maps the plurality of threshold values in a two-dimensional array.” The other independent claims in the application include similar language. In support of the indefiniteness rejection, the Examiner alleges that the meaning of the phrase “the number of which is greater than the number of the pixels included in each of the pixel groups” is unclear.

The phrase cited by the Examiner means that if, for example, a local dither matrix includes eight elements of 2 x 4, the threshold values to be mapped in the eight elements are selected from more than eight types of threshold values. The number of types of threshold values (i.e., the variety) is greater than the number of elements (in this example, eight). More

specifically, the eight elements are selected, for example, from sixty-four (64) different threshold values. As described in the specification, the present invention involves the preparation of a global dither matrix (see Figure 8), and eight threshold values of 2 x 4 are taken from the dither matrix (see Figures 12 and 13). The global dither matrix includes 256 types of threshold values from 0 to 255. Accordingly, the eight threshold values of 2 x 4 are the threshold values selected from the 256 types of threshold values.

In view of the foregoing, Applicant respectfully submits that the phrase “the number of which is greater than the number of the pixels included in each of the pixel groups” is sufficiently clear to enable one having ordinary skill in the art to determine the boundaries of what constitutes infringement of the claims. See MPEP § 2173. Accordingly, Applicant submits that claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 satisfy the definiteness requirement of 35 U.S.C. § 112, second paragraph, and requests that the rejection of these claims thereunder be withdrawn.

Rejection Under 35 U.S.C. § 103

Applicant respectfully requests reconsideration of the rejection of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33 under 35 U.S.C. § 103(a) as being unpatentable over *Zhang* (US 5,359,430) in view of *Troxel* (US 5,124,803). As will be explained in more detail below, the combination of the *Zhang* and *Troxel* references would not have rendered the subject matter defined in independent claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33 obvious to one having ordinary skill in the art.

In the *Zhang* reference, the number of thresholds is restricted to the number of pixels included in the pixel block at the maximum (in Figure 3, the number is 16). On the other hand, claim 1 specifies that thresholds that are selected from among various types of thresholds, the number of which is greater than the number of pixels included in a pixel group, are mapped in a two-dimensional array. Accordingly, the configuration defined in

claim 1 yields multiple combinations of thresholds for respective pixel groups, the number of which is greater than the number of pixels included in each pixel group. As a result, the relation between the tone value of each pixel group and the number of dots to be created in each pixel group is quite diverse.

In formulating the obviousness rejection, the Examiner acknowledges the above-discussed differences between *Zhang* and the claimed subject matter, but asserts that these differences are taught by *Troxel*. Citing Figure 9B of this reference, the Examiner states that *Troxel* selects a plurality of threshold values from 1 to 16 as the elements that constitute a dither matrix. The Examiner further states that the numbers 1 to 16 are greater than the numbers of the pixel groups (0-7 as shown in Figure 9A). See the Final Office Action at page 6. Applicant respectfully traverses the Examiner's characterization of the *Troxel* reference relative to the claimed subject matter.

In the *Troxel* reference, the number of pixels in each of the rectangular regions (for example, the regions with numbers 0, 1, 2, and 3 arranged therein) shown in Figure 9A is 16 of 4 x 4. This is no different from the number of types of thresholds, which is 16 going from 1 to 16. Thus, *Troxel* does not disclose (or suggest) the claimed feature that the number of types of threshold values is greater than the number of pixels included in each of the pixel groups. In formulating the obviousness rejection, it appears that the Examiner has improperly interpreted the claimed feature as requiring that the number of types of the thresholds is greater than the number of the pixel groups (rather than being greater than the number of pixels included in each of the pixel groups).

Further, with regard to, for example, independent claim 5, the *Troxel* reference also does not disclose (or suggest) the claimed feature of "comparing a tone value of each of the pixels constituting each of the pixel groups and a corresponding threshold value mapped in each of dither matrices where a plurality of threshold values selected from among various

types of threshold values, the number of which is greater than the number of the pixels included in each of the pixel groups, is mapped in a two-dimensional array.”

In view of the foregoing, even if one having ordinary skill in the art were to combine the *Zhang* and *Troxel* references in the manner proposed by the Examiner, the result of this combination would not have included each and every feature of the claimed subject matter. As such, the combination of the *Zhang* and *Troxel* references would not have rendered the claimed subject matter obvious to one having ordinary skill in the art.

Accordingly, independent claims 1, 5, 20, 22, 24-26, 28, 30, 31, and 33, as presented herein, are patentable under 35 U.S.C. § 103(a) over the combination of *Zhang* in view of *Troxel*. Claims 2 and 4, each of which depends from claim 1, claims 6 and 8, each of which depends from claim 5, claim 21, which depends from claim 20, and claim 25, which depends from claim 24, are likewise patentable under 35 U.S.C. § 103(a) over the combination of *Zhang* in view of *Troxel* for at least the same reasons set forth above with regard to the applicable independent claim.

Conclusion

In view of the foregoing, Applicant respectfully requests reconsideration and reexamination of claims 1, 2, 4-6, 8, 20-22, 24-26, 28, 30, 31, and 33, as presented herein, and submits that these claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 749-6902. If any additional fees are due in connection with the filing of this paper, then the

Application No. 10/551,199
Amendment dated November 24, 2010
Response to Final Office Action mailed June 24, 2010
(Submitted with RCE)

Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. MIPFP178).

Respectfully submitted,
MARTINE PENILLA & GENCARELLA, L.L.P.

/Peter B. Martine/

Peter B. Martine
Reg. No. 32,043

710 Lakeway Drive, Suite 200
Sunnyvale, California 94085
Customer Number 25920